

Amendments to the Specification:

Please replace the paragraph beginning at page 9, line 26 with the following rewritten paragraph:

FIG. 1 is a schematic diagram illustrating major parts of a scanning electron microscope having an energy filter according to the embodiment of the present invention. An electron beam 2 generated by an electron beam source 1 is converged by a condenser lens 3 and then directed to an energy filter 5. The energy filter 5 includes an energy dispersion section 6 and a slit 7 disposed on a dispersion plane of electron beam. The slit 7 is coupled with a slit adjuster 8. Magnets or electrodes in the energy dispersion section 6 produce a magnetic or electric field, which is in an out-of-plane direction in FIG. 1, thereby dispersing the electron beam according to the energies. Any type of energy dispersion section may be selected other than the configuration shown in FIG. 1 as long as it can disperse energy of an electron beam.

Please replace the paragraph beginning at page 18, line 11 with the following rewritten paragraph:

FIG. 7 is a schematic diagram showing major parts of a transmission electron microscope according to another embodiment, which has an energy filter. An electron beam 2 generated by an electron beam source 1 is controlled by a condenser lens 3 and an objective lens 12, illuminating a specimen 13. The electron beam having transmitted through the specimen 13 enters an energy filter 5 where the electron beam undergoes energy dispersion made by an energy dispersion section 6 and energy selection executed by a slit 7. Subsequently, the electron beam, which is projected on a fluorescent screen 52 in an observation chamber with intermediate and projection lenses through an intermediate lens 50 and a projection lens 51, is used for observing an image of electron microscope and measurement of electron

Appl. No. 10/620,958
Amdt. Dated February 26, 2004
Reply to Office Action of December 24, 2003

Attorney Docket No. 83394.0009
Customer No.: 26021

beam energy loss spectrum. The energy filter 5 according to the present embodiment is same as that of the embodiment shown in FIG. 1.

Please replace the paragraph beginning at page 18, line 13 with the following rewritten paragraph:

FIG. 8 is a schematic diagram showing a transmission electron microscope according to the other embodiment, which has two energy filters 5a and 5b. In the following description, the same numeral is used for a component which is the same as that described in the previous embodiment, with addition of a symbol “a” or “b” so as to identify to which of the two energy filters 5a and 5b the component is related. The transmission electron microscope includes an electron beam source 1, an energy dispersion section 6Aa which is disposed upstream a specimen 13 and narrows an energy width of electron beam generated by the electron beam source 1 and the other energy dispersion section 6Bb for analyzing the electron beam having transmitted through the specimen 13. In this connection, a detector for observing an image of electron microscope and the like are omitted. The transmission electron microscope according to the present embodiment illuminates an electron beam with a narrow energy width, thereby allowing an observation of image with higher spatial resolution. Furthermore, the transmission electron microscope can perform an energy analysis of electron beam having transmitted through the specimen, thereby providing an accurate image for element distribution and also an accurate image and spectrum for the state of chemical bonding.